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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,339	02/09/2004	Ryosuke Kuribayashi	Q77322	6498

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EXAMINER

SINGH, DALZID E

ART UNIT	PAPER NUMBER
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2613

MAIL DATE	DELIVERY MODE
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10/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/773,339	KURIBAYASHI, RYOSUKE	
	Examiner	Art Unit	
	Dalzid Singh	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-31 is/are allowed.
- 6) ☒ Claim(s) 2-6, 9, 10 and 21 is/are rejected.
- 7) ☒ Claim(s) 7, 8 and 11-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 8, 10 and 12 is withdrawn in view of the newly discovered reference(s) to Watanabe et al and Wada et al. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 21 is rejected under 35 U.S.C. 102(e) as being anticipated by Watanabe et al (US Patent No. 6,963,436).

Regarding claim 21, Watanabe et al disclose an optical gate control method, as shown in Fig. 1, comprising:

supplying to a nonlinear optical phase shifter (it is inherent for optical gate circuit to comprise nonlinear phase shifter) controlled light (clock pulses) having a first pulse time width; and

supplying to said nonlinear optical phase shifter control light (waveform light) having a second pulse time width to generate a nonlinear optical phase shift in a pulse of said controlled light, wherein said first pulse time width and said second pulse time widths are different (as shown in Fig. 1 the pulses of the light have different widths).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US Patent No. 6,963,436) in view of Wada et al (US Patent No. 6,064,513).

Regarding claim 4, Watanabe et al disclose an optical signal regenerative repeater, as shown in Fig. 1, comprising:

at least one first optical 3R repeater (Fig. 1) which receives an optical communication signal pulse, and regenerates said optical communication signal pulse, wherein said first optical 3R repeater comprises:

a first clock extraction unit (8) which extracts a clock from said optical communication signal pulse and which extract a clock from said optical communication

signal pulse and which generates a first optical clock pulse synchronized with said extracted clock, and

a first optical gate (10), which is opened and closed in accordance with a control light (waveform shape light) corresponding to said optical communication signal pulse, which receives as a controlled light (clock pulses) said first optical clock pulse generated by said clock extraction unit, and which generates a first regenerated signal pulse corresponding to said optical communication signal pulse wherein a pulse time width of said control light and said controlled light is different (as shown in Fig. 1, the clock pulses and waveform shaped light have different pulses).

Watanabe et al disclose regeneration repeater as disclosed above and differ from the claimed invention in that Watanabe et al do not disclose a second optical 3R repeater which receives said first regenerated signal pulse output by said first optical 3R repeater as an intermediate signal light, and regenerates said optical communication signal pulse based on said intermediate signal light. Wada et al teach multiple regenerating systems connected together in which the second receives regenerated signal pulse output by the first regenerating (see Fig. 1). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to connect one regeneration system to the other as taught by Wada et al. One of ordinary skill in the art would have been motivated to do such in order to maintain desired signal quality over long transmission distances.

Regarding claim 2, as shown in Fig. 1, Watanabe et al show said pulse time width of said controlled light is smaller than said pulse time width of said control light.

Regarding claim 3, Watanabe et al do not show that the pulse time width of said control light is smaller than said pulse time width of said controlled light. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to adjust the pulse width to be larger.

Regarding claims 5 and 9, as discussed above, the combination of Watanabe et al and Wada et al teaches regeneration unit connected together; therefore, it would have been obvious that the other regeneration unit will comprise the same or similar components as that of the first regeneration unit. Therefore, the second regeneration unit will comprise a second clock extraction unit, which extracts a clock from said intermediate signal light and generates a second optical clock pulse synchronized with said extracted clock and having an arbitrary pulse time width for optical communication; and a second optical gate, which is opened and closed in accordance with said intermediate signal light, which receives as a controlled light said second optical clock pulse generated by said second clock extraction unit, and which generates a second regenerated signal pulse corresponding to said communication signal pulse.

Regarding claims 6 and 10, wherein said pulse and a pulse time width of said optical communication signal pulse input to said first regenerator are substantially the same (depending on the distance between the regeneration unit and the effect of signal

degradation due to transmission losses, the pulse width received will substantially be the same).

Allowable Subject Matter

6. Claims 25-31 are allowed.
7. Claims 7, 8, 11-13, 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 20, 2007

DALZID SINGH
PRIMARY EXAMINER

